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AN ARGUMENT FOR PARTIAL ADMISSIBILITY  
OF POLYGRAPH RESULTS  
IN TRIALS BY COURTS-MARTIAL

A Thesis

Presented to

The Judge Advocate General's School, United States Army

The opinions and conclusions expressed herein are those of the author and do not necessarily represent the views of either the Judge Advocate General's School, The United States Army, or any other governmental agency.

by Major J. Frank Burnette, JA  
United States Army

38TH JUDGE ADVOCATE OFFICER GRADUATE COURSE

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AN ARGUMENT FOR PARTIAL ADMISSIBILITY  
OF POLYGRAPH RESULTS  
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by Major J. Frank Burnette

ABSTRACT: This thesis examines the history of polygraphy in the context of the recent controversy over the admissibility of polygraph results. The thesis observes the status of polygraph evidence in American courts. The theory and method of polygraphy receive some discussion as do several misconceptions surrounding polygraphy. This thesis proposes a solution to some polygraph shortcomings and concludes that results indicating no deception by the subject should be admitted in trials by courts-martial.

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## I. Introduction

One commentator suggested many years ago that "if ever there is devised a psychological test for the valuation of witnesses, the law will run to meet it."<sup>1</sup> However, the law has repeatedly declined the opportunity to run to meet the polygraph. Since Frye v. United States,<sup>2</sup> civilian and military courts have generally viewed the polygraph with skepticism.

In United States v. Gipson<sup>3</sup> the United States Court of Military Appeals held that a military judge erred in denying an accused the opportunity to lay the foundation for the admission of unstipulated exculpatory polygraph evidence at a trial by court-martial. The Gipson decision places the military justice system on the leading edge of the law in federal criminal justice concerning the admission of polygraph results. The potential impact of this decision merits closer scrutiny in light of the long-standing hostility the federal courts have expressed toward the polygraph.

Due to its abrupt break with precedent, Gipson has created considerable consternation in military circles.<sup>4</sup> Legislative attempts at overturning judicial decisions are nothing new. However, because

the President must approve any change to the Military Rules of Evidence, an attempt to circumvent Gipson outside judicial channels creates the potential for a constitutional controversy. Such a use of valuable resources is not necessary if one views and applies Gipson in a reasonable context. Since the potential exists for a revitalization of the Frye standard, both sides of the controversy warrant further evaluation.

This paper will examine the Gipson decision as it relates to other judicial pronouncements on the question of polygraph admissibility. Gipson is apparently the first in a series of decisions. As a result, several significant issues remain unresolved. This paper will discuss some of these issues. .

Numerous misconceptions concerning the polygraph have flourished for many years. These require discussion to the extent that they impact on polygraph admissibility. Trial practitioners must anticipate judicial concerns and develop sound strategies for addressing them. This paper will provide an analytical framework for practitioners confronting polygraph admissibility and will demonstrate the propriety of partial admissibility of polygraph results in a trial by court-martial, thereby obviating the need for legislative reversal.

## II. An Historical Perspective on Detection of Deception

For thousands of years civilization has sought methods for assuring the veracity of solemn utterances. As long ago as 600 B.C. one writer believed some criminals could be detected by careful observation of their behavior.

A person who gives poison may be recognized. He does not answer questions, or they are evasive answers; he speaks nonsense, rubs the great toe along the ground, and shivers; his face is discolored; he rubs the roots of the hair with his fingers; and he tries every means to leave the house.<sup>5</sup>

This guidance is inherently subjective, but reflects the belief that the criminal may be detected through careful observation.

History provides examples of more specific methods for detecting deception. The Romans gave little credence to testimony from slaves unless the statement was obtained through some type of torture. During the period of the Spanish Inquisition a variety of mechanisms assured suspects did not answer questions lightly.



In the Middle Ages there was little reliance on observable characteristics of the suspect. The focus was on the belief that divine intervention would enable the truthful to avoid almost certain injury or to perform difficult tasks. Whether called mysticism, superstition, or religious fervor, acceptance of the validity of various ordeals permitted their continued use for many years.

Many types of ordeals were created for the detection of deceptive individuals and the vindication of the truthful. One ordeal required a person to establish their innocence by licking a red hot iron several times. Another required suspects to plunge an arm into boiling water. The innocent or truthful would escape injury, while the guilty or untruthful were readily detected and subjected to appropriate punishment.<sup>6</sup>

Years later the focus returned to the speaker or suspect as a proper source for proof of the truth of their utterances.

Guilt carries Fear always about with it,  
there is a Tremor in the Blood of a Thief,  
that, if attended to, would effectually  
discover him; and if charged as a suspicious

Fellow, on the Suspicion only I would always feel his Pulse, and would recommend it to Practice. It is true some are so hardened in Crime that they will boldly hold their Faces to it, carry it off with an Air of Contempt, and outface even a Pursuer; but take hold of his Wrist and feel his Pulse; there you will find his guilt; . . . a fluttering Heart, an unequal Pulse, a sudden Palpitation shall evidently confess he is the Man, in spite of a bold Countenance or a false Tongue.<sup>7</sup>

It is significant that this passage incorporates the psychological concept of fear of detection as the operative mechanism permitting identification of the deceptive party. Implicit in the guidance is the belief that fear of detection is a universal emotion that causes observable physiological activity.

Almost two hundred years later, advances in medicine permitted research and development in the field of detection of deception. William Marston is the American pioneer in the field. Marston used discontinuous measurements of blood pressure during questioning to determine the veracity of the answers given. His claim of 100 percent accuracy did not go

unnoticed. The United States employed Marston's crude method during World War I in security and espionage investigations with some success.<sup>8</sup>

Five years after the war Marston administered his test upon Alphonso Frye, who was facing a charge of murder. Marston determined that Frye truthfully denied the charge against him. The defense failed in its attempt to have the test results admitted at trial, leading to Frye's conviction for murder and the landmark decision of Frye v. United States. While the nine paragraph decision discusses the admission of scientific evidence, the general acceptance standard of Frye has continued applicability only with respect to polygraph evidence.

### III. Fundamentals of the Polygraph Technique

There are numerous sources which provide an over of the polygraph and related issues. Many cases cited herein provide a good summary of the relevant considerations. Publications by experts in the field of polygraphy tend to be more comprehensive.<sup>9</sup> Publications provide an excellent overview of the information available in the public domain.

#### A. The Polygraph Machine

Anyone observing a polygraph machine for the first time could easily conclude it is a survivor of the Spanish Inquisition. The lengths of wire and coils get the immediate attention of the subject. However, the various polygraph machines in use today cause virtually no discomfort. Several companies market the device, but there are generally no important differences between the products.

Development of and improvements in polygraph machines have paralleled developments in medicine. As the medical field developed more accurate instruments to monitor various functions of the human body the improvements found their way into polygraph machines. The sensors in use today are highly accurate at measuring and recording bodily functions.

The machine monitors and records pulse rate, respiration, and galvanic skin response.<sup>10</sup> Each physiological activity is separately detected in a continuous fashion during the test. Pen registers translate the physiological activity into separate graphic representations, hence the name of the device: the "poly" "graph."

## 1. The Cardiosphymograph

A cardiosphymograph monitors changes in blood volume and pulse rate across the brachial artery of the upper arm. The mechanism is similar to a blood pressure cuff. A polygrapher inflates the device midway between the systolic and diastolic blood pressure readings.

The arm cuff is the only polygraph sensor that has the potential to cause physical discomfort. As the cuff is inflated to higher pressure levels it may become annoying. A physician typically checks blood pressure at a level of 90 millimeters of mercury. The cuff placed on the arm of a blood donor commonly maintains 45 millimeters pressure. In polygraph use the cuff provides acceptable sensitivity near or below 60 millimeters of pressure. Some newer machines contain electronic enhancement of this sensor, which permits operation near 45 millimeters of pressure.

As the heart pumps blood through the circulatory system it causes variations in the size of the arteries. Feeling your pulse establishes that your blood flow is rhythmic rather than constant. The changes in blood flow and volume appear clearly on the machine's trace. The number of spikes in the trace

corresponds to the pulse rate. Variations in the amplitude of the trace correspond to changes in the blood volume.

## 2. The Pneumograph

The pneumograph detects changes in respiration through two corrugated pneumatic tubes positioned horizontally around the chest or upper abdomen. Sufficient tension to prevent slippage will suffice. The tubes are closed at one end and connected by a narrower tube to a bellows system within the instrument. The bellows maintains a predetermined amount of pressure within the tubes.

During breathing the chest and abdomen expand and contract. The expansion and constriction causes changes in the pressure against the bellows. In the same manner that the cardiosphygmograph displays the heartbeat, the pneumograph graphically displays the rate of respiration.

The two pneumograph displays are not identical. This is due to the variations in expansion and constriction volume observed between the upper and lower chest areas. The patterns observed may appear similar, but they are not synchronous.

### 3. The Galvanometer

The galvanometer measures changes in skin conductivity. Two small metal clips attached to the fingers of one hand serve as the points of contact. An imperceptible electric current passed through the electrodes permits the measurement of changes in skin conductivity.

The release of perspiration causes measurable changes in skin conductivity. Skin perspiration rate changes according to external stimuli. People vary significantly in this regard. However, almost everyone has noticed sweaty or clammy hands in some stressful situation. The sweat glands will actually reabsorb some amount of perspiration. The amount of perspiration is not as significant as the fact that the variations occur.

The graphic representation of the galvanic skin response seldom displays a rhythmic pattern. The line depicted is likely to make slight shifts up and down the page, or may make a dramatic change in amplitude.

#### 4. The Kymograph

The kymograph dispenses graph paper under the polygraph pens during the test. As the graph paper moves under the pens at a steady pace the various traces take shape. The design permits time calculation by counting the vertical increments on the graph paper. Horizontal markings permit ready observation of changes in trace amplitude.

#### 5. Calibration

The sensors are not difficult to test for the proper range of operation. Inflating the cuff above the normal use pressure, stretching the tubes, and shorting the electrodes together will readily alert the operator to mechanical or electrical problems. The process only takes two or three minutes usually.

Each of the sensors can be calibrated for variations in the amplitude of the trace. This allows isolation of each trace to a particular part of the page. The galvanometer trace may vary from the top of the chart paper to the bottom depending on the degree of the change.



When the machine is first put into operation the polygrapher asks the subject to sit quietly. As the graph paper begins to dispense at a constant rate, the polygrapher makes adjustment of each sensor to the appropriate levels for the pulse rate, respiration, and galvanic skin response of the subject as a baseline reading. If conditions warrant any adjustment of the sensors during the test, the polygrapher will place a mark on the chart paper at the point where the adjustment occurred. Adjustments are invariably quite obvious on the tracings, but the additional mark allows anyone looking at the chart to determine that the polygrapher, and not the subject, caused the change.

#### B. Theory of the Polygraph

Our prehistoric ancestors lived a less complicated life at the expense of greater physical danger. Their ability to detect and respond to danger permitted their survival and perpetuation. They have passed this instinctive ability to us in the form of something known as the fight or flight reaction.

When the brain detects imminent danger a warning is transmitted to the nervous system. The sympathetic nervous system responds to the warning by preparing the

body for the strenuous physical activity of confronting or avoiding the danger. Adrenaline is dumped into the bloodstream. The heartbeat quickens to pump more blood to the large skeletal muscles used in locomotion. Respiration increases to inject more oxygen into the bloodstream. Perspiration increases on the hands to assist in tactile sensitivity. At the same time visceral functions such as digestion are diminished permitting diversion of blood flow for anticipated needs.

Once the brain senses that the threat has passed the parasympathetic nervous system counteracts the state of readiness. Heartbeat and respiration return to normal along with other functions. Blood flow to the digestive system returns to regular levels.

There is no dispute as to the existence of this automatic reaction in the human body. The dispute arises as to what triggers the sequence. Certainly the perception of physical danger initiates the reaction. Common experience with the automobile and its propensity to encounter other objects provides many familiar examples of the instinctive reaction to imminent physical harm.

Critics of the polygraph dispute the notion that something less than the perception of physical danger

will trigger the fight or flight reaction. However, the automobile provides an example here as well. Suppose you are driving along a clear stretch of highway and are not paying scrupulous attention to the speedometer. As you casually glance into the rear view mirror you notice a police cruiser two car lengths off your back bumper. In all but a few situations there is no reasonable basis for a perception of physical danger in this situation. You immediately glance at the speedometer and notice that you are driving five miles per hour over the speed limit. As the police cruiser passes you because you have slowed to considerably below the speed limit you will notice palpitations in the heart, let out a sigh of relief, or possibly feel a twitch in your arms or legs.

Before you realized it, your mind sent the warning to the sympathetic nervous system. The instinctive reaction to the perceived threat worked perfectly even though no physical danger ever entered your mind. Something in your mind automatically initiated the process and subsequently cancelled the alert. The logical deduction here is that the operative fear was that of being caught in the act of speeding. No one would claim that driving five miles per hour over the speed limit is the crime of the century, yet we all

realize the potential consequences of being detected in such unlawful activity. The desire to avoid these consequences, or fear of them, causes instinctive sympathetic arousal.

The theory of the polygraph exploits the instinctive reaction described above. The fear of detection in the utterance of a lie is not mentally severable from the reasonable apprehension of the consequences of being detected. The bodily functions monitored by the polygraph permit the detection of sympathetic and parasympathetic arousal triggered by the fear. Medical science is unable to isolate the specific mental or neural activity responsible for the fight or flight reaction, just as why we cry is impossible to isolate and quantify, but the affect on the body of both is a matter of universal experience.

While one may explain the theory of the polygraph more eloquently, erudition does not equate to greater comprehension. Fear of detection as described above is not a difficult concept, nor is the polygraph an overly complex device. A trained and experienced polygrapher essentially evaluates the observed physical responses to stimuli in the form of questions.

### C. The Control Question Format

Preparation of the appropriate question format is an important function of the polygrapher. Polygraphy has experimented with different formats over the years. In the criminal investigative setting the control question format enjoys preeminence.<sup>11</sup> The technique uses three types of questions in a controlled format. Irrelevant questions include innocuous interrogatories such as, the day of the week, the name of the state, or something equally insignificant. Irrelevant questions should not be a potential threat to the subject. The format requires their objective neutrality for scoring purposes.

Relevant questions get to the heart of the matter under investigation. In non-pejorative terms, relevant questions ask whether the subject did the act in issue. "Did you shoot John Smith?" "Did you take John Smith's wallet without his permission?" These questions are specific and pose a potential threat to the guilty subject.

Pejorative or emotive words such as "murder" or "steal" are generally inappropriate for control questions. These words may have an impact on the innocent as well as the guilty. For this reason the

polygrapher will describe the act under investigation in descriptive terms, making every effort to avoid emotive phraseology.

Control questions may be referred to as probable lies or thought provoking questions. Their purpose is to cause some mental reaction in the subject. "Before 1 May of this year did you ever take anything that didn't belong to you?" This type of question invariably causes mental activity.

Controls embrace the same general subject as the matter under investigation. Larceny controls relate to prior wrongful takings.<sup>12</sup> Other offenses involving dishonesty may use a control which asks if the subject ever told a lie to someone who trusted them. The reason controls must be similar to the investigated crime is so the innocent may focus on them to the exclusion of the relevant questions.<sup>13</sup>

One could criticize control questions on the premise that they assume the subject is a liar. Admitting to earlier indiscretions is unpleasant for anyone. Many will simply deny questionable or relatively minor behavior in their past because they feel that it is none of the polygraphers business. At this point it is helpful to recall that fear of detection is the significant mental state. Control

questions develop this fear, or thought provocation, by the very fact that they require the subject to reflect over a long period of time. Relatively minor activities will allow the control question to achieve its desired purpose.

These three types of questions<sup>14</sup> are arranged in a standardized format for the test. The normal test contains eight to twelve questions with the relevants, irrelevant, and controls mixed throughout. The polygrapher will ask the questions three times with a ten to fifteen second pause between each question and a short break between each series. The pause gives the subject time to react to the question. The break gives the subject a moment to relax. Changing the order in which the questions appear sometimes reveals an anticipatory response by the subject.

#### I. The Pretest

Before beginning the pretest the examiner will ask the subject to read and sign a polygraph consent form and a rights waiver. The pretest will not continue in the absence of these documents. The attorney must explain this in advance along with the fact that the examiner has already read the investigative case

file.<sup>15</sup> The examiner will typically discuss the offense under investigation only to the extent necessary to explain the test questions.

The pretest is an extremely important portion of the test. At this point the polygrapher explains the machine and the test procedure to the subject. The polygrapher orchestrates the dialogue acquires the proper mental state. While polygraphers develop their own routine for the pretest, the procedure has several basic attributes.

A brief explanation of what the machine does and how it does it helps alleviate the initial anxiety some subjects experience. The polygrapher further advises the subject that normal anxiety will not cause test "failure" because s/he will adjust the machine to each person's body activity before the test starts. The subject is encouraged to relax since they have nothing to worry about as long as they tell the truth.

The examiner talks about the virtue of truthfulness and the vice of deception in colloquial terms and acquires the subjects agreement in principle. The examiner will explain how the fight or flight reaction permits detection of even the most accomplished liars. While these matters sound simplistic, they help place the subject in a good frame of mind. Even if the



subject has doubts about the ability of the polygraph, s/he soon learns that the polygrapher has none and will base the decision on involuntary body reactions.

The polygrapher discusses each of the test questions with the subject and the answer that the subject will give to them during the test. The subject learns that all questions require a simple "yes" or "no" answer on the test. The purpose here is to ensure the polygrapher and the subject have an identical perception of the questions' meaning. The examiner will ask if the subject has any question as to the meaning of any test question. If necessary, words can be defined or limited in meaning for the context of the test.

When discussing control questions the examiner will not attempt to acquire admissions of unrelated questionable activity. The control question operates on the premise that the subject has something to conceal or, at a minimum, must ponder the matter. The object is to leave the knowledge or doubt in the subject's mind for the test.

Some subjects admit to information asked in control questions, such as stealing candy during adolescence or being untruthful with a spouse at some time.

Admissions of minor misconduct occur when the subject is sincerely purging the soul or is attempting to convince the polygrapher that they could never commit a serious crime. When this happens the polygrapher will isolate the admission and reword the control question. The admission is usually isolated by a comment such as, "I'm sure you didn't do that again." The question is then modified with the prefix, "Except for what you told me about." This procedure will still cause the innocent to focus on the control question during the test.

By creating the proper mental state in the subject the polygrapher enhances the ability to detect deception on the relevant questions. The innocent focus on the only real threat present, i.e., the control questions. The guilty will obviously feel less concerned about the historical information of the controls and will focus on the clear and present danger posed by the relevant questions.

## 2. The Stimulation Test

During the pretest phase, a demonstration of the machine's effectiveness helps place the subject in the proper mind set. If the subject can be convinced that

the machine permits the examiner to detect even a harmless lie, the fear of detection of a serious misrepresentation is all the more genuine. Polygraphers accomplish this with a stimulation or stim test.

In setting up the stim test the polygrapher states something to the effect that you can't always look at someone and tell that they are telling a lie. S/he goes on to say that the polygraph machine makes it easy to make this determination. For example, the examiner will hand the subject a piece of paper and instruct them to write the number "7" in the middle of the page. With a different colored pen the examiner then writes "8" and "9" above the "7" and "6" and "5" below it. The examiner asks the subject to answer "no" when asked if he wrote each of the numbers. The point is made that the answer to the question will be a lie for "7." The examiner then puts the machine in operation and goes through the exercise.

The polygrapher will examine the traces momentarily before showing them to the subject and will confidently point to one of the traces as the telltale indicator. In reality it does not matter what the traces show if the examiner is convincing. The stim test may actually

reveal the known deception or it may be a complete ruse. Both can effectively eliminate any lingering doubts in the subject's mind.

### 3. The Polygraph Test

The test phase is typically the shortest part of a polygraph examination. When the polygrapher runs three sets or series, the test phase, including the short rests in place between each series, can be as brief as thirty minutes. Sometimes the examiner will run four sets to obtain more scoring data. This has absolutely nothing to do with whether the results will indicate deception.

Polygraphers use a monotone when asking the questions during the actual test. This avoids causing the subject to react to any question due to emphasis by the examiner. This is a matter of good technique.

During the test the examiner makes several marks along the bottom of the graph paper. A number bracketed by two hash marks indicates the number of the question and the points in time where the examiner started and finished speaking the question. The test report always contains the actual test questions with their respective numbers. Other marks include any

adjustment indicators and necessary test identification markings.

#### 4. Scoring the Charts

Scoring polygraph charts is a developed skill rather than an intuitive art form. Polygraphy has experimented with different scoring techniques over the years.<sup>16</sup> As the need for a more reliable scoring technique became apparent, the numerical scoring method gained in popularity.<sup>17</sup>

Numerical scoring comparatively evaluates the level of response to pairs of relevant and control questions. The difference in relative response determines the assigned numerical value. When a greater response occurs with a control question the examiner assigns a positive value(+) to that pair of questions. A greater observed response for a relevant question merits a negative score(-). If no significant difference appears a score of zero is appropriate.

Numerical scoring provides criteria for the value attributed to observed differences. A greater range of possible values equates to more sensitivity, but can be awkward in application. A seven point scoring system provides reasonable sensitivity and is not overly

cumbersome. Minor, moderate, and major differences, scored as 1, 2, and 3, respectively, consider both the amplitude and duration of the response in question.

The technique contains room for subjectivity in that it allows the examiner to pick scoring pairs. The examiner may also decline to use a particular response for scoring purposes.<sup>18</sup> This subjectivity aside, the technique is primarily objective in nature.

After scoring the individual pairs the positive and negative scores are accumulated for the three series normally obtained. A total score between -3 and +3 will be considered inconclusive. A score above +3 reflects no deception, while a score below -3 indicates deception.

In the technical sense one does not pass or fail a polygraph examination. As suggested above, three possible outcomes exist. One outcome states that no deception is indicated during the test (known as NDI). The opposite result states that deception is indicated from the results (known as DI). When no conclusion can be drawn the results will simply be ruled as inconclusive.

In the strictly technical sense it is the polygrapher, rather than the polygraph machine, that is the "lie detector." Obviously the polygrapher is

incapable of making the determination without the assistance of the device. Nonetheless, in common parlance the machine the "lie detector" is the polygraph machine.

#### IV. The Polygraph and the Courts

##### A. The Federal Courts

No federal circuit permits the admission of unstipulated polygraph results over objection. The circuits have relied on Frye and a few other concerns articulated over the years. In recent years many federal courts did not require an evidentiary hearing on the subject.<sup>19</sup> Even when a court has found that polygraph evidence met the Frye standard and had probative value the evidence was, nonetheless, found inadmissible.<sup>20</sup>

In the last few years the circuits have become slightly more hospitable toward the polygraph. Only three circuits persist in a rule of per se exclusion.<sup>21</sup> While these courts have examined the issue, they appear unwilling to abandon a rule that is simple in application.

Four circuits are struggling with the polygraph admissibility issue. These courts do not generally permit the admission of polygraph results. They have fashioned a set of special circumstances that allow use of evidence concerning a polygraph when it is an operative fact in the case.<sup>22</sup>

At least two circuits will permit the admission of polygraph results as evidence of a material fact when the parties stipulate to the circumstances and uses of the results in advance.<sup>23</sup> Other circuits have hinted at this from time to time in obiter dictum, but they have not issued definitive rulings to that effect in criminal cases. The experience of the 8th and 11th Circuits will most assuredly have an impact on future decisions in the other circuits.

The United States Supreme Court has yet to speak directly on the polygraph issue. Such a pronouncement will probably await the time when some federal circuits admit polygraph results as substantive evidence over objection.<sup>24</sup> Since the denial of certiorari has no precedential value, the federal circuits are left to their own devices.



## B. The States

The states have shown no greater ability to achieve harmony regarding the polygraph than the federal courts. Currently only one state allows the admission of unstipulated polygraph results, predicated upon a showing of the competence of the examiner and proper administration of the test.<sup>25</sup> Fifteen states permit admission when the parties stipulate in advance of the test.<sup>26</sup> At least ten more states do not permit the admission of polygraph results for any purpose.<sup>27</sup>

The states have the ability to standardize polygraph practices through licensing laws. Unfortunately, this potential has not yielded significant results. Fourteen jurisdictions have no licensing laws for polygraphers.<sup>28</sup> Four of these jurisdictions have no provisions at all regarding polygraph use outside the judicial arena.<sup>29</sup>

The inability of the states to reach any consensus on polygraph issues unquestionably prolongs the judicial debate in both state and federal courts. Until some degree of uniformity appears among the legislatures, the courts will have difficulty making significant progress on the matter.

C. Gipson in Perspective

Boiler Technician Second Class Jerry L. Gipson faced court-martial for three transfers of lysergic acid diethylamide aboard ship. To support his denial of the charges he secured the services of an independent polygrapher. The polygrapher determined that Gipson was not deceptive in denials of the specific allegations against him. At a later date Gipson submitted to a polygraph examination conducted by a Naval Investigative Service polygrapher. The results of the latter examination indicated deception by the sailor.<sup>30</sup> The military judge denied the defense motion in limine which sought admission of the favorable polygraph results.

In the lead opinion, Judge Cox squarely confronted the polygraph controversy.<sup>31</sup> He detailed the shift in the federal courts brought about by Federal Rule of Evidence 702 and agreed with the Third Circuit that Frye "should be rejected as an independent controlling standard of admissibility."<sup>32</sup> He also explained the concept of logical relevance as it applied to expert testimony and scientific evidence.<sup>33</sup>

Judge Cox effectively discarded over sixty years of confusing and arbitrary precedent in favor of the

reasoned approach implicit in the Federal and Military Rules of Evidence.<sup>34</sup> As a result, he ultimately determined that polygraph evidence should be treated no differently than other categories of scientific evidence. The decision expressly did "not suggest that all polygraph evidence is admissible,"<sup>35</sup> but simply ruled that a party has the right to attempt to lay the foundation.

While the Gipson decision wisely did not attempt to answer all questions related to the use of polygraph evidence at trial, it did provide some useful guidance for trial practitioners. One must be cautious in deriving specific conclusions from an initial decision such as Gipson. However, the decision does appear to delineate some workable principles and limitations.

The court made it clear in Gipson and in a subsequent decision that some other evidence must be admitted before polygraph evidence is logically relevant and therefore admissible.<sup>36</sup> By rendering polygraph evidence supplemental in nature the court avoids the troublesome prospect that polygraph results may be the only evidence before the factfinder on a particular issue.<sup>37</sup> It is therefore impossible for the government to obtain a conviction solely on the basis of polygraph evidence.

Since polygraph evidence may be offered and admitted over objection, stipulated polygraph results should not create any great difficulty.<sup>38</sup> The key here is that both parties stipulate prospectively, in writing, to the specific trial uses of the results.<sup>39</sup> Even with a stipulation, either party should retain the right to offer evidence concerning the weight that the factfinder should give to the results.

Gipson further establishes that polygraph evidence may be relevant to the testimony of any witness. This would allow either party to submit polygraph results. For example, the government could offer polygraph results relevant to the testimony of the victim,<sup>40</sup> even in the absence of an attack on the witness' credibility.<sup>41</sup>

The court twice express a preference for "negative" polygraph results, i.e. those indicating that the subject was not deceptive.<sup>42</sup> This is an obvious effort to develop experience with the polygraph cautiously in view of the concern for the validity of polygraph results indicating deception by the subject.<sup>43</sup> Accordingly, trial counsel should give serious consideration to the wisdom of offering polygraph results indicating that the accused was deceptive during a test.

In typical fashion for Judge Cox, he displayed confidence in the ability of military judges to exercise sound discretion in the admission of polygraph evidence.<sup>44</sup> This vote of confidence will allow military judges the flexibility necessary to develop reasoned and sensitive guidelines for trial uses of polygraph evidence. While the decision may be criticized for its failure to establish a bright line rule,<sup>45</sup> it, nonetheless, reflects a reasonable approach to an issue that has baffled most federal courts.

#### D. A Critique of the Frye Standard

There are several aspects of the standard enunciated in Frye that render the admission of polygraph results problematic. The opinion refers to general acceptance in the scientific community without specifying what constitutes adequate acceptance or what academic discipline is the requisite scientific community. An evaluation of the Frye standard reveals that it causes proponents of the polygraph to labor under the weight of an unreasonable requirement for the admissibility of polygraph evidence.

The general acceptance of polygraph theory in the scientific community would embrace several factors. The nuances of the theory and its application must be generally known by the appropriate community. There must be general agreement that the theory is valid and that the procedure employed properly implements the theory. Alternatively, the relevant facts could be available in independent sources whose accuracy was beyond dispute.

The factors stated above are not proper conditions precedent to the admission of any category of scientific evidence. They are, however, the required elements for the taking of judicial notice of adjudicative facts. Mil. R. Evid. 201(b) provides:

A judicially noticed fact must be one not subject to reasonable dispute in that it is either (1) generally known universally, locally, or in the area pertinent to the event or (2) capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

The similarity between the general acceptance standard of Frye and the requirements for the taking of judicial notice has not escaped respected legal commentators.<sup>46</sup>

Over the years since Frye a court hostile to polygraph evidence, invariably offered only by the defense, needed only to claim that adequate general acceptance had not been attained, despite increasing critical support outside judicial circles.<sup>47</sup> An equally effective approach was to state that the acceptance demonstrated in the particular case was not from the appropriate scientific community.<sup>48</sup> Either approach was effective in disposing of the matter without ever reaching the merits of the issue of admissibility of a particular test.

In the face of considerable research, many courts relied on the Frye standard as the basis for exclusion of polygraph evidence. Most courts ignored the anomalous double standard that existed between the generous relaxation of admission standards for scientific evidence and the continued application of the Frye standard for polygraph evidence alone.<sup>49</sup>

This uncritical adherence to precedent is clearly not warranted in courts-martial after the adoption of the Military Rules of Evidence.<sup>50</sup> Even though the Court of Military Appeals has confronted the issue in Gipson, the nefarious general acceptance standard manages to survive as one factor to be considered in the current analysis by the trial judge.<sup>51</sup>

E. Traditional Arguments Against Polygraph  
Admissibility

As a substantial body of support in various scientific communities developed supporting the validity of the polygraph, the courts quickly developed other concerns that were difficult, if not impossible, for the research to answer. In the years since Frye judicial hostility to the polygraph has been multifaceted, but has focused on three principal arguments.

One argument is that the polygraph is not a valid scientific test for the ascertaining of veracity.<sup>52</sup> Some courts speculate that polygraph evidence will improperly overwhelm the jury due to the aura of scientific infallibility surrounding scientific evidence.<sup>53</sup> Other courts have voiced the concern that the controversial nature of polygraph evidence will result in a battle of experts over the polygraph and will divert the attention of the jury from the question of guilt or innocence of the accused, thereby imposing an undue burden on the administration of justice.<sup>54</sup>



## 1. Validity and Reliability

Judicial discussions of the polygraph frequently use the terms validity and reliability interchangeably. This lack of precision confuses the issues.<sup>55</sup>

Validity refers to whether a particular test actually measures what it claims to measure. For example, does a blood test actually determine the blood type of the sample tested. Since certain chemical characteristics of the blood have been grouped into mutually exclusive categories known as types, a test that accurately identifies the groupings or types would be considered a valid test.

Reliability on the other hand refers to the ability of a test to give the same results if it is administered repeatedly or by different technicians. Following the same example, a reliable blood test would yield the same results if conducted again or evaluated independently.

The primary difficulty with evaluation of the polygraph's validity is that the concept of truth may not be physically or chemically quantified, unlike blood type or fingerprints. Most judicially accepted scientific tests rely on the existence of detectable

chemical or physical properties. The courts are comfortable with these tests because there is minimal interpretation by the technician. Validity is virtually assured if the test is run properly. Moreover, re-testing is unlikely to yield different results. Urinalysis testing is a common example of chemical testing that is recognized as valid and reliable.

When confronted with the polygraph the courts have been unwilling to make the leap of faith so commonly employed with chemical testing. Despite the certainty of the "fight or flight" reaction in the human body, the courts are generally unwilling to accept the connection between physical manifestations and the fear of being detected in the knowing utterance of a falsehood. Dozens of studies covering hundreds and thousands of subjects have demonstrated the ability of the polygraph to detect deception or the lack thereof with a high degree of accuracy.<sup>56</sup>

The difficulty here is that the polygraph is employed in a variety of situations such as employment testing, security evaluations, and criminal investigations. The studies make it clear that the most accurate (valid) results are obtained in the criminal investigation setting.<sup>57</sup> It is therefore

difficult to comprehend why courts find it appropriate to generalize about overall validity when such generalizations are clearly inappropriate on the basis of available research.<sup>58</sup>

In the field of urinalysis testing for illicit drugs it is recognized that the metabolites of different drugs remain in the body for different periods of time. Cocaine metabolizes relatively quickly and is only detectable for approximately 72 hours. Tetrahydrocannabinol, the principal psychoactive ingredient of marijuana, may be detected for a considerably longer period of time.

The courts would not seriously consider excluding cocaine testing as invalid because the test could not detect the metabolites to the extent that marijuana may be detected. However, this type of generalization is routinely employed when the validity of the polygraph is discussed. Discussions of something called average validity invariable include statistics from studies of validity in the employment screening or security fields.

It is highly unlikely that the average panel member or judge fully comprehends the intricacies of or scientific principles involved in chemical testing for drugs. The experts essentially claim that certain

drugs display reactions when examined in a particular way and those reactions may be interpreted to permit identification of the substance. In a like manner, a polygrapher interprets physiological activity in response to stimuli. The interpretation of physiological activity triggered by the autonomic nervous system is the basis for the opinion that the subject is or is not attempting deception during the test. This concept is not beyond the grasp of factfinders.

For many years, clinical and field studies have demonstrated that the polygraph is an extremely accurate method of determining whether or not a criminal suspect is being truthful or deceptive.<sup>59</sup> This considerable body of information does not persuade skeptics who curiously recall the Frye standard while relying on more reasonable criteria with other categories of scientific evidence.

The reliability of polygraph testing has been criticized because the identical results are not routinely obtained with subsequent testing. While there is no consensus as to the cause of this phenomenon, it is possible that familiarity with the process may dissipate some of the fear of detection. In a more practical vein, when the defense hires a

civilian polygrapher the fear factor arguably diminishes because unfavorable results may be discarded by the defense.<sup>60</sup> Assuming this problem actually exists,<sup>61</sup> it is not insurmountable because reliability may also be determined through evaluations of the test results by independent examiners.

Every polygraph test conducted by Department of Defense polygraphers undergoes an independent "quality control" evaluation.<sup>62</sup> This process is done in a "blind" fashion, meaning that the evaluator does not have the investigative file and has not met the subject. This independent evaluation eliminates any contaminating influence of the individual who conducted the exam because only the actual charts are evaluated.

. This method of determining reliability has been employed in clinical and field environments.<sup>63</sup> .

Despite all the rhetoric about validity and reliability, the polygraph scores high in both categories. Use of the polygraph could be a valuable aid to the courts in their search for the truth. A rule of per se inadmissibility would ignore these realities.

## 2. Validity of Other Scientific Evidence

In Gipson Judge Cox observed that "the results of a particular examination may be as good or better than a good deal of expert and lay evidence that is routinely and uncritically received in criminal trials."<sup>64</sup> Indeed, testimony regarding rehabilitative potential<sup>65</sup> and pertinent character traits<sup>66</sup> are inherently subjective in nature. This type of "expert evidence"<sup>67</sup> is routinely admitted in courts-martial with virtually no discussion of its complete lack of scientific validity. Such opinions are essentially intuitive judgments the law is willing to tolerate.

One of the most questionable types of expert testimony admitted into evidence is eyewitness testimony.<sup>68</sup> Despite an opportunity to observe a perpetrator at close range, many victims provide amazingly disparate identifications.<sup>69</sup> The case of State v. Grier<sup>70</sup> involved the burglary of a home at gunpoint and the rape of the resident. The rape victim claimed the perpetrator was six feet tall. Her husband, who had approximately the same opportunity to observe the perpetrator standing, identified the perpetrator as six feet eight inches tall. The

individual picked at a police line up was a mere five feet nine inches tall. The Grier court provided this information as background material and did not find the incredible discrepancy significant. The court subsequently refused to admit defense tendered polygraph evidence because it had "never retreated from [its] basic position that polygraph evidence is inherently unreliable."<sup>71</sup>

Psychiatrists and psychologists offer many expert opinions that fail to meet rigorous mathematical analysis. Expert opinions regarding the so-called rape trauma syndrome and similar theories are frequently admitted at courts-martial. It requires little analytical expertise to observe that the theories embrace almost any fact pattern from a catatonic stupor to complete avoidance.<sup>72</sup>

Opinions concerning the future dangerousness of individuals are notoriously untrustworthy. Experts in the field do not feel they should be accountable for such prognostications.<sup>73</sup> However, the Supreme Court has implicitly rejected the argument that demonstrated accuracy in only one of three predictions of future dangerousness renders such evidence so unreliable that it should be inadmissible in a court of law.<sup>74</sup>

Exclusion of polygraph evidence on the basis that it lacks absolute mathematical validity is simply not justifiable when other types of commonly admitted evidence are examined. As employed in the criminal investigation setting the polygraph is an extremely accurate (valid) test for determining truth or deception. The courts should not persist in their myopic analysis of polygraph evidence as the favorable research continues to accumulate.

### 3. Aura of Scientific Infallibility

The contention that its aura of scientific infallibility would cause polygraph evidence to overwhelm the factfinder has been around for many years. This supposition was articulated in United States v. Alexander.<sup>75</sup>

Based on the presentment of this particular form of scientific evidence, present-day jurors, despite their sophistication and increased educational levels and intellectual capacities, are still likely to give significant, if not conclusive, weight to a polygraphist's opinion as to whether the



defendant is being truthful or deceitful in his response to a question bearing on a dispositive issue in a criminal case. To the extent that the polygraph results are accepted as unimpeachable or conclusive by jurors, despite cautionary instructions by the trial judge, the jurors' traditional responsibility to collectively ascertain the facts and adjudge guilt or innocence is preempted.

The Alexander court cites no authority for this proposition.<sup>76</sup> Later decisions give the illusion more credence when they cite to Alexander as authority for the concept.<sup>77</sup>

The view expressed in Alexander is inappropriately patronizing of the citizens who perform jury duty. There is an argument that even if there is some validity to its underlying premise, the fear is not applicable to the military. The military employs a "blue ribbon panel"<sup>78</sup> as opposed to a cross section of the community. Panel members are typically experienced decision makers who frequently must weigh mutually exclusive concerns in making important decisions. Moreover, a panel is presumed to follow

the instructions of the military judge.<sup>79</sup>

Considering these factors, there is no basis for shielding the court-martial panel from polygraph evidence.

Many types of scientific evidence possess an equally prejudicial aura of scientific infallibility. Blood tests, ballistics reports, handwriting analysis, or urinalysis results have a tremendous impact on the outcome "[t]o the extent that [they] are accepted as unimpeachable or conclusive by jurors." Considering this, it is not reasonable to claim that polygraph evidence is any more apt to preempt the factfinding process improperly<sup>80</sup> than an eyewitness identification that crosses cultural or racial dimensions.<sup>81</sup> Such identifications are extraordinarily common in military practice due to the positioning of military units in locations such as Japan, Korea, or Germany.

There is one category of scientific evidence that may possess such a high degree of mathematical certainty that it raises the concerns articulated in Alexander. Recent developments in genetic research have led to a technique called DNA mapping. This technique claims it can isolate and identify the individually unique chemical composition of genetic material present in a tissue sample.

By calculating the statistical likelihood that the observed characteristics will repeat in the general population, DNA mapping yields exclusion ratios in the realm of 1 in 10,000,000, or higher. This translates to the proposition that the sample tested could belong to only one person in ten million. Few could argue that this does not constitute proof beyond a reasonable doubt. The dramatic impact of such evidence raises the fears expressed Alexander. Additionally, when one considers that the technique may lack the incredible accuracy it claims, the potential for prejudice increases dramatically.<sup>82</sup>

With the exception of William Marston some seventy years ago, no one claims that polygraph evidence is virtually infallible. When polygraph evidence is presented in court, the estimates of its validity will vary from 85 to 95 percent. Even at the higher end of the spectrum, the court will have the discretion to accept or reject the evidence on the matter in issue because it does not claim virtual mathematical certainty.

A recent general court-martial in Hawaii establishes convincingly that the aura of scientific infallibility is not case dispositive as far as the polygraph is concerned. A Sergeant First Class Perez

was charged with adultery and several specifications of sexually assaulting two female subordinates at work.<sup>83</sup> The subordinates consented to polygraph examinations regarding their sworn statements against the accused. The examiner and the quality control evaluators determined that the females were not deceptive (truthful) in their responses.

The defense attacked the credibility of the alleged victims. In response, the government offered the polygraph results to support the testimony of the alleged victims. The examiner explained the operation of the machine, how the particular tests were conducted, and the results he obtained from the specific questions asked. The quality control evaluator testified that the test was conducted properly, that he agreed with the results obtained, and that the validity and reliability of such results were in the range of 95% with respect to mathematical certainty.

The military judge gave the following instruction regarding how the polygraph evidence was to be considered by the members:

You've heard the testimony of Mr. Brisentine and Mr. Bressett about polygraph examinations and the results that have been reached in those examinations .... Now in this case, what they've been allowed to testify about, and the subject of their testimony is a matter of credibility, believability, truthfulness of these two witnesses at the time they made the statements in the examination. The relevant statements you heard read off.... You're not required to accept their testimony merely because they're expert witnesses. It's your job to decide what's true and what's not; who to believe; and what to believe.... You're not to ignore the testimony of other witnesses on these same facts merely because these two people have been qualified as experts. You should consider all the evidence.... You must not abandon your function as the finders of fact and the judges of credibility of the witnesses. You can't just say, "oh, well, the polygraph said she was telling the truth. That's the end of it." You have to consider all the evidence. You must make the decision.<sup>84</sup>

If the fears expressed in Alexander have application to a court-martial panel, the accused should have been convicted of all the sexual assault charges against him, despite the cautionary instruction of the military judge. However, the court found the accused guilty of adultery and not guilty of the sexual assaults against the subordinates.<sup>85</sup> This is not a clinical study that may be second guessed on some esoteric premise. This is hard evidence that a court-martial may reject polygraph evidence when properly performing its function as finder of fact. Accordingly, the unsupported speculation delineated in Alexander must be placed in its proper perspective.

#### 4. The Validity Dilemma

The courts consistently apply a double standard to polygraph evidence with respect to the notion of validity. Research and experience have demonstrated the significant lack of accuracy attributable to other types of scientific evidence. Despite the demonstrated lack of scientific validity these categories of evidence receive the judicial stamp of approval. Polygraph evidence, on the other hand, has

been excluded from consideration because it lacks sufficient validity, even though it is demonstrably more valid than many other types of scientific evidence.

When one considers the contention regarding an aura of scientific infallibility in relation to the traditional requirement of an extremely high degree of mathematical certainty as to validity of polygraph evidence, an interesting dilemma appears. Validity of seventy or eighty percent is generally insufficient under the Frye standard to warrant admission of polygraph results. However, once recognized validity is above the ninety-five percent range, the aura of scientific infallibility provides an arguable basis for exclusion. The availability of a basis for exclusion at either end of the validity continuum places polygraph evidence in the grasp of the ultimate Catch 22.

It is indeed curious that a court of law finds it palatable to exclude polygraph evidence because it may be too accurate. The courts warmly accept chemical testing as a valuable tool in the ultimate search for the truth. When one considers the routine uses of chemical testing in the courts and its extremely high

degree of mathematical precision, it is disingenuous to exclude polygraph evidence on the premise that it may preempt the fact finding process.

#### 5. Confusion of the Court

Somewhat related to the aura of scientific infallibility is the contention that the admission of polygraph evidence will divert the factfinding process away from the question of guilt or innocence and result in a "mini trial" of the polygraph. Several cases have discussed the lengthy evidentiary hearings required before the trial judge made the decision to exclude the proffered results.<sup>26</sup>

The older cases are of little precedential value to military practice since they were tried outside the Federal Rules of Evidence or their military counterparts. Continued reliance upon the "mini-trial" contention after adoption of the Federal Rules of Evidence is not appropriate. Before enactment of these rules the Frye test was the controlling standard for the admissibility of polygraph results, thereby requiring the proponent to establish general acceptance in the scientific community. Courts could not agree on what the appropriate community was much



less the quantum of acceptance that amounted to "general acceptance." However, no court has opined negatively regarding use of the polygraph as a valid test in the criminal investigatory arena.

In the case of United States v. Medina the defense tendered a foundational hearing on polygraph admissibility. In this particular case the applicable evidentiary rule stated that polygraph evidence was per se inadmissible. Attorney F. Lee Bailey presented a foundation far more extensive than that required under current law. Seven of the leading experts in the polygraph field testified, yet the transcript consists of eighty-three pages.<sup>87</sup> While the entire transcript was not prepared due to the acquittal of the accused, it is submitted that the foundational hearing was a minute portion of this lengthy trial.

Gipson eliminates the need for military practitioners to meet the nebulous general acceptance standard. General acceptance is now one factor to be considered in determining whether the evidence "will assist the trier of fact."<sup>88</sup> While this standard is admittedly less stringent than the Frye test, it is fully harmonious with the existing evidentiary rules.

In the Perez case, the total direct and cross-examination of the polygraph examiner and the

additional foundational expert for two government offered polygraph examinations consumed only twenty-seven pages in transcript form. This is hardly a burden that the administration of justice is unable to bear. The case demonstrates that there is no need for polygraph evidence to cause confusing or misleading diversions in a criminal trial. Whenever one party offers scientific evidence, the opposing party has the opportunity to offer evidence regarding the weight that it deserves.

A reasonable application of Mil. R. Evid 403<sup>89</sup> by military judges will prevent any type of scientific evidence from creating a battle of expert witness that detracts from the key function of a criminal trial. In fact, logical relevance, as articulated in Gipson, requires military judges to engage in Mil. R. Evid. 403 analysis when considering motions to admit polygraph evidence. When the proffer of polygraph evidence creates corresponding issues related to rebuttal witnesses, military judges should have little difficulty in making the appropriate findings.

The argument regarding a potentially excessive burden on the administration of justice is only legitimate to the extent that polygraph evidence must meet extraordinary foundational requirements. To some

extent the courts have made this a self-fulfilling prophecy through the application of the general acceptance standard. Colloquially speaking, it generally takes more ammunition to hit a moving target.

One respected legal scholar has created some clarity amidst the confusion by outlining the necessary foundational predicate. According to this scholar the foundation for polygraph evidence has thirteen elements:

1. The witness has the qualifications to establish the underlying principle's validity and the instrument's reliability;
2. The witness has the qualifications to administer a polygraph examination;
3. The witness has the qualification to interpret a polygraph examination;
4. The underlying principle of polygraphy is valid;
5. The underlying principle is generally accepted as valid;
6. The polygraph instrument is reliable;
7. The instrument is generally accepted as reliable;
8. The examiner tested the subject;

9. When the examiner tested the subject, the witness to be impeached, the instrument was in working order; 10. At the time, the examiner used certain procedures to conduct the test;

11. The procedures used were proper;

12. The subject had a certain result on the test;

13. The results of the test indicate that the subject was lying when he or she made a certain statement.<sup>90</sup>

While there is some duplicity in this outline,<sup>91</sup> it is essentially identical to the foundational outline Imwinkelried provides for scientific evidence in general.<sup>92</sup> When one combines Gipson, Mil R. Evid. 702 and 803, and the educational background polygraph examiners gain from the Institute, it is apparent that the complete presentation of polygraph evidence requires no more than two witnesses at the trial. The Perez case provides an excellent example of the relative simplicity with which polygraph evidence may be properly admitted at courts-martial.

The courts rejecting polygraph evidence because it arguably creates additional issues uniformly fail to recognize that all scientific evidence undergoes a

transitional period with regard to admissibility. During an initial period the full foundation is required. At a later stage, the courts recognize the validity of the test and take judicial notice of the appropriate facts.

Once the courts deem it appropriate to take judicial notice the correctness of the particular test is the only litigated issue. All types of scientific evidence have passed through this era of sanctification. The repetitious foundational hearings were undoubtedly a burden on the administration of justice for a time.<sup>93</sup> The polygraph is no different in this regard and should not be treated differently. Rejecting scientific developments simply because they temporarily create an additional burden on the administration of justice is difficult, if not impossible, to justify.

#### 6. Other Common Misconceptions

Over the years since Frye, other curious misconceptions sprouted in the field of judicial distrust. These sporadic assaults on the polygraph are responsible for many of the misgivings concerning polygraph admissibility. Fortunately, researchers

have shown the folly of many of these theoretical shortcomings of the polygraph.

Despite research and practical experience to the contrary, many myths persist. Exposing these myths may speed in their demise. The sociopathic personality and the friendly polygraph examiner are two prominent myths that warrant discussion.

a. The Sociopathic Personality

One fear is that some individuals are devoid of ethical or moral constraints and therefore have no fear of being detected in the utterance of a lie. These hardened criminals, so the theory warns, would escape responsibility for their misdeeds by taking a polygraph examination. The potential miscarriage of justice is accordingly deemed to be an unacceptable risk for the administration of justice.

This siege mentality has no basis in fact and is repudiated by research conducted on prison inmates.<sup>94</sup> It further ignores the practical reality that fear of detection during a polygraph examination is not emotionally distinguishable from a fear of the consequences of detection. A properly orchestrated pretest interview will establish the

emotional and mental link between detection and punishment.

The absence of socially ingrained moral standards will not eliminate the inherent desire for self-preservation that is aroused in the criminal investigative setting. Lest the argument that some may enjoy punishment be unanswered, it would seem that individuals intent upon enduring the consequences of their actions would not seek to avoid criminal responsibility by taking a polygraph examination.

b. The Friendly Polygraph Examiner

In many locations an accused soldier may acquire the services of a civilian polygraph examiner. The accused in Gipson offered the results of a polygraph examination conducted by a civilian. The potential use of such results may cause some anxiety for trial practitioners. However, such anxiety may be unwarranted.

The most obvious concern regarding the use of civilian polygraph examinations in a trial by court-martial is that civilian examiners are totally independent of any Department of Defense standards. It should be obvious that an accused may "shop" for a

favorable polygraph result in the civilian market. The inability to obtain favorable results logically means that unfavorable results never come to the attention of the prosecution.<sup>95</sup> These factors combine to create an amorphous distrust of civilian polygraph results.

It is accurate to state that the states are inconsistent in their regulation of polygraph examiners. The varying requirements for licensing, or lack thereof, make it difficult to conclude in a general fashion that similar training and techniques are used. While there are many excellent civilian schools that train polygraph examiners, standardization of their curricula is not a realistic expectation.

The myth of the "friendly" polygraph examiner posits that such results are not trustworthy because they lack the fear of detection element that is fundamental to polygraph validity. Since unfavorable results most assuredly will not be used at trial, the accused has absolutely nothing to lose and everything to gain by seeking an independent polygraph examination. The myth of the friendly polygraph examiner is one more piece of ammunition in the arsenal of polygraph opponents that has little basis in fact.



The myth ignores many practical realities. Failure of any polygraph examination necessarily forecloses defense options and strategies. An accused who fails such an examination would be foolish to volunteer subsequently for a government examination. Stipulating in advance to a subsequent examination after an initial unfavorable one is clearly out of the question. Moreover, the failure of a polygraph examination unquestionably places the accused in a less favorable posture with the defense counsel. The myth of the friendly examiner notwithstanding, an accused has a great deal to lose from an unfavorable polygraph examination no matter who conducts it.

Viewed objectively, the civilian polygraph examiner poses as great a threat to an accused as a government examiner. Fear of detection is intimately associated with a fear of the consequences of detection. An explanation of the maximum permissible punishment for pending charges should render any polygraph examination a meaningful emotional event.

A survey conducted a few years ago asked prosecutors and defense attorneys regarding independently conducted polygraph examinations. If the myth is correct, independent examinations should have yielded a high rate of defense favorable results.

However, the results of this survey refute the myth of the friendly polygraph examiner. According to the survey, less than half of the independent examinations sought by the defense provided results indicating no deception by the person tested.<sup>96</sup>

While the case may arise in which an independent polygraph examination lacks the requisite emotional significance, the fear of an independent examination lacking validity solely because it is independent is not warranted. The opponent of an independent examination is free to argue or present evidence relative to the weight that should be given to independently obtained results by the finder of fact. However, the myth is not, in and of itself, sufficient justification for wholesale exclusion of independently obtained polygraph results.

#### V. Research and Training

The Department of Defense Polygraph Institute (hereinafter the Institute)<sup>97</sup> located at Fort McClellan, Alabama, manifests the significant interest within the Department of Defense toward the validity and reliability of the polygraph. The Institute has a dual mission concerning the polygraph and its use

within the Department of Defense. One aspect of the mission is to train polygraphers for all Department of Defense agencies except the Central Intelligence Agency. The second and coequal function of the Institute is to conduct detailed research.

The instructors at the Institute are selected from the various agencies within the Department of Defense. They are typically polygraphers with several years' field experience who have conducted hundreds of polygraph exams in the criminal investigative environment. Among the factors considered in selection is the extent to which the test results obtained by the candidate over the years have been confirmed by extrinsic evidence. Selection is quite competitive due to the limited number of positions available. It is fair to say that those selected as polygraph instructors are among the best and brightest in the field.

The considerable reservoir of experience and expertise present at the Institute permits the students to obtain the best possible training in polygraph techniques. The low student to instructor ratio of two or three to one ensures that each student is closely monitored and assisted in developing their own expertise during the hands-on training process.

Once competency with the polygraph machine is developed, the students are provided the opportunity to refine their testing techniques. Mock crime scenarios involving soldier volunteers are presented to the students in a blind fashion. The students are required to conduct a polygraph exam on the "suspects." Question formation and test organization are generally the responsibility of the student, but are closely monitored by the instructors. Only after the student scores the test does s/he learn whether the results are correct. After each scenario is completed the instructors critique the various aspects of the monitored performance.

Developing an effective polygraph testing technique is not possible without a working knowledge of polygraph theory, human physiology, and psychology. To accomplish these objectives the Institute, in conjunction with a nearby university, offers classroom instruction in the needed subject areas. The materials cover, inter alia, the development of polygraph theory and techniques and courses in psychology and physiology.

The rigorous instruction conducted at the Institute allows the student to understand the specific psychophysiological mechanisms monitored by

the polygraph machine. The traditional classroom instruction and the practical training apply toward a masters degree program for the successful students. The masters program is completed by a field internship of six to twelve months.

An important aspect of the training focuses on legal considerations. Several times a year this training is put to work in a courtroom environment when the Institute conducts trial testimony seminars. Attorneys from various Department of Defense agencies participate in the seminars as judges, prosecutors, and defense counsel. The students provide the testimony needed to lay the foundation for admission of polygraph results. This includes testimony concerning polygraph theory, validity, reliability, and the specifics of machine operation,<sup>23</sup> in addition to the details of the particular test in issue. These seminars are an excellent mechanism for students to become familiar with the subtleties of adequate foundational testimony.

The research function of the Institute is performed in harmony with the training objectives. Research is closely associated with development at the Institute. Research psychologists stay abreast of developments in the field, fine tune the mock crime

scenarios presented to the students, analyze and refine testing techniques, and develop more precise formats for scoring test results.

Clinical research may not reveal the psychophysiological intricacies of why the polygraph works. However, realistic research permits the enhancement of proven techniques leading to increased validity and reliability. Evaluation of test question formats enables researchers to determine which are the most effective. Moreover, research subjects come from the age and occupational group most commonly encountered by military polygraph examiners - young soldiers. This factor alone arguably renders research results more properly applicable to real world testing.<sup>99</sup>

The Institute is conducting preliminary research and development of a computerized polygraph scoring system. While the numeric scoring system presently in use is far more objective than the global scoring technique advocated many years ago, a computerized method of scoring will virtually eliminate most subjectivity in scoring the test results. It will also ensure that a test scoring will not vary dramatically between polygraph examiners.<sup>100</sup> Once developed and released for use within the Department

of Defense, a computerized scoring technique will eliminate any further question regarding the objectivity of the scores obtained from the polygrams.

The Institute presents an undeniable response to some of the reasons cited for distrust of the polygraph. Research, training, and education tend to standardize techniques by promoting the most valid and reliable methods. Additionally, polygraph examiners should satisfy the evidentiary requirements as experts for providing the necessary foundational testimony in most cases. This will unquestionably minimize the burden on the administration of justice, which appears so prominently as a basis for per se exclusion polygraph evidence.

#### VI. A Proposal for Limited Admissibility

The Gipson decision did not impose a per se rule of polygraph admissibility. Rather, the decision appeared to harmonize Mil. R. Evid. 702 with long-standing acceptance of the Frye standard. Since general acceptance is now an aspect of the "helpfulness" standard for the admission of scientific evidence, military courts will undoubtedly confront many novel issues concerning polygraph evidence.

The proposed amendment to the Military Rules of Evidence would have the advantage of simplicity, but it could also create an issue worthy of consideration by the United States Supreme Court. A middle ground between per se exclusion and automatic admissibility seems much more reasonable as a starting point. Stipulated polygraph results probably will include examinations indicating deception by the accused, but civilian experience teaches that most accuseds whose stipulated results indicate deception are inclined to enter into plea negotiations.

The proposal outlined below will minimize the impact of two troublesome polygraph issues: the friendly examiner and the lack of national standards. These two issues are a recurrent theme in the cases. Their resolution should promote considerably higher receptivity of polygraph evidence by the courts.

#### A. Conquering the Friendly Examiner

As is true with myths in general, the myth of the friendly polygraph examiner can be overcome with knowledge. The belief that independently conducted examinations are somehow suspect ceases to be a problem when a standard of comparison and verification



exist. The proposal outlined below provides appropriate mechanisms for eviscerating the myth of the friendly polygraph examination.

Implicit in the notion of a friendly examination is the concept of a standard of comparison - friendly compared to a government conducted examination. When it can be demonstrated that an independent examination is no less adversarial than one conducted by the government, the myth should evaporate as a consideration. Examination techniques employed by the Department of Defense, and particularly within the Armed Services provide a readily available standard of comparison. When the independent examination uses the same preliminary and testing techniques as government conducted examinations there should be no objection to those facets of the independent examination. In the absence of substantial compliance with government techniques, the military judge may, in the exercise of sound discretion, properly determine that the particular test is inadmissible.

This approach has distinct advantages in that it encourages standardization of techniques by independent examiners. The standardization that develops inevitably will be harmonious with the techniques developed and employed by examiners within

the Department of Defense and taught at the Institute. Supply and demand economics could easily accomplish what fifty state legislatures and congress cannot agree upon - standardization of polygraph testing techniques. Independent examiners have a clear interest in their test results being synonymous to government results for purposes of admission at trial. Failure to meet the appropriate standards would necessarily inhibit the continued economic vitality of civilian polygraph examiners to the extent that they rely on accused soldiers for their clientele.

Every independent polygraph examination should be videotaped in the pretest and test phases. To avoid the possibility of chart fabrication, a split screen taping should record the subject and the generation of the charts. A lack of synchronization between the markings necessarily made on the charts during the examination and the audio of the tape would raise questions regarding the authenticity of the charts tendered. The absence of inconsistencies would correspondingly eliminate potential concerns regarding fabrication.

The simple expedient of videotaping the pretest and test phases of independently conducted polygraph examinations should go a long way toward exposing the

myth of the friendly examiner. The recordings of the test phase similarly establish objectively verifiable evidence of the propriety of that aspect of the examination. When consulted by trial counsel, Department of Defense trained polygraph examiners, it is believed, would not hesitate to highlight improprieties in independently conducted examinations. Videotape evidence of the pretest phase would allow trial practitioners, government examiners, and the courts to assure themselves that the proper emotional framework was established and that the test was conducted in accordance with accepted techniques and procedures.

Independent polygraph examiners should not be reluctant to submit their polygrams for a quality control verification.<sup>101</sup> This provides additional incentive for independent examiners to employ recognized test procedures and formats. This "in house" verification of the test results also eliminates the need for the trial counsel to seek a subsequent government conducted examination unless the test procedures are not in conformity with established standards. Accordingly, rather than place any additional burden on the administration of justice, this proposal obviates many troublesome trial issues

by necessitating that all potentially admissible polygraph results devolve from verifiable testing procedures and formats that are in substantial compliance with government practices.

#### B. Admission of NDI Polygraph Results

As was discussed earlier, available research establishes that the highest degree of confidence appears with polygraph examinations indicating no deception by the subject. While this type of examination may be offered indirectly against an accused as was done in the Perez case, NDI polygraph results will not, in and of themselves, result in a conviction or acquittal. Logical relevance, as explained by the Court of Military Appeals, requires the admission other competent evidence before any polygraph results may be offered. The repeated judicial expressions of concern regarding polygraph validity should not be offended by the admission of the most valid polygraph results, which, practically speaking, do nothing more than support an inference regarding the evidence already presented at the trial.

Permitting the admission of NDI polygraph results would alleviate the concern that an innocent accused

will be convicted solely on the basis of unfavorable polygraph results indicating deception.<sup>102</sup> In the vast majority of cases, the NDI polygraph offered at trial will not be that of the accused since many prosecutorial authorities are willing to drop charges when such a result is obtained. However, in the unusual case where the government proceeds to trial in the face of an NDI polygraph by the accused, the defense will have a valuable piece of evidence at its disposal.

The admission of an NDI polygraph could be sought by the government or the defense when the issues at trial devolve into a swearing contest. In the Perez case, the key issue was the credibility of the accused opposed to that of two government witnesses. While the results of the admitted NDI polygraph results were not outcome determinative, they were properly admitted under Gipson.

There is a uniquely military context in which the admission of NDI polygraph results could work substantial justice. There are many trial situations at which one party is confronted by witness of greatly superior rank compared to its own witnesses. In a close case a court-martial panel could easily resolve issues on the basis of superior rank since that factor

significantly impacts on credibility. The ability to offer NDI polygraph results supporting less senior military witnesses could minimize the inherent imbalance of opposing witnesses of greatly superior rank and military experience.

There would be little burden to the administration of justice occasioned by the admission of NDI polygraph results, particularly when the examination was conducted by government examiners or is in substantial compliance with government standards as delineated above. The quality control verification would eliminate most litigation regarding testing formats and procedures. Moreover, the quantum of any additional evidence regarding the appropriate weight that should be given to the results would be under the control of the military judge within the guidelines of Mil. R. Evid. 403.

Once implemented, this proposal for limited admissibility would permit careful consideration of the impact of polygraph results at trials by courts-martial. Permitting the admission of stipulated polygraph results and NDI polygraph results as outlined above, will avoid the vast majority of the judicial concerns expressed in opposition to the admission of polygraph results. The

courts will then be able to approach each new issue raised on its own merits.

## VII. Conclusion

For over sixty years United States v. Frye stood as an impenetrable obstacle to the admission of polygraph evidence. Few cases discussing the polygraph and its validity fail to mention Frye and the general acceptance standard. Once the polygraph began to acquire a broader base of scientific support the courts expressed additional concerns.

Despite judicial hostility, use of the polygraph continued by law enforcement agencies. Some courts, notably the Court of Military Appeals, have questioned Frye in light of the modern evidentiary rules for scientific evidence. While many jurisdictions leave the question of polygraph admissibility to the discretion of the trial judge, that discretion has almost universally been exercised to preclude admission of polygraph results.

United States v. Gipson is an extremely important decision for polygraph advocates. The case carefully opens the door for a deliberate judicial examination of the polygraph. In the author's opinion, that door

should not be slammed shut precipitously by changing the evidentiary rules applicable to courts-martial.

Continued use of the polygraph by law enforcement should not be ignored. Many state and federal agencies rely on polygraph results in making significant decisions. This clearly demonstrates the value of the technique and considerable support for its validity, judicial criticism notwithstanding.

The admission of NDI polygraph results at courts-martial will not unduly burden the military justice system. The criteria outlined in this paper permit the courts to admit accurate results in an evenhanded manner. They further ameliorate or eliminate the collateral concerns voiced over the years.

If a function of the courts is the search for the truth, they should not reject a valuable tool proven to be effective toward that quest. Myopic circumvention of judicial willingness to consider the issue is equally unreasonable. The polygraph, like any other scientific technique, is not infallible. However, military criminal justice has the ability to develop this issue responsibly under the watchful eye of the United States Court of Military Appeals.



ENDNOTES

1. Wigmore on Evidence, section 825 (2d ed. 1923).
2. 293 F. 1013 (D.C. Cir. 1923).
3. 24 M.J. 246 (C.M.A. 1987).
4. Hostility regarding the polygraph is not limited to judicial circles. The Joint Service Committee for Military Justice is presently considering an amendment to the Military Rules of Evidence that will overturn the Gipson holding. The proposed Mil. R. Evid. 707 states, in pertinent part: "Notwithstanding any other provision of law, the results of a polygraph examination, the opinion of a polygraph examiner, or any reference to an offer to take, failure to take, or taking of a polygraph examination, shall not be admitted into evidence."
5. p. Trovillo, A History of Lie Detection, 2, S.R. 19 13, The Provost's Marshall General's School 1961, reprinted with permission from Criminal Law and Criminology, March-April and May-June 1939

6. Id. at 2-6.

7. Daniel Defoe, An Effectual Scheme for the Immediate Prevention of Street Robberies and Suppressing All Other Disorders of the Night, 1730, quoted in Lykken, A Tremor in the Blood: Uses and Abuses of the Lie Detector, Foreword (1981).

8. S. Abrams, The Complete Polygraph Handbook, 2-3, Lexington Books, 1989.

9. See e.g. D. Raskin, The Polygraph in 1986: Scientific, Professional and Legal Issues Surrounding Application and Acceptance of Polygraph Evidence, Vol. 29, No. 1, Utah L. Rev., 29-74 (1988); W. Nardini, The Polygraph Technique: An Overview, Vol. 15, No. 3, Journal of Police Science and Administration, 239-49 (1987).

10. There are many excellent sources of information on the polygraph machine. Additionally, a number of judicial decisions discuss the subject. As a result, this paper will provide a general overview. Unless otherwise indicated, the information concerning the

workings of the machine may be generally obtained from the literature available.

11. C. Honts, D. Raskin, A Field Study of the Validity of the Directed Lie Control Question, Vol. 16, No. 1, Journal of Police Science and Administration, 56-61 (1988); L. Driscoll, C. Honts, D. Jones, The Validity of the Positive Control Physiological Detection of Deception Technique, Vol. 15, No. 1, Journal of Police Science and Administration, 46-50 (1987).

12. Some standard theft control questions are: Have you ever stolen anything? Have you ever stolen from an employer? Have you ever cheated anyone out of something of value? Have you ever ripped someone off who trusted you? The polygrapher would use variations of the closest situation to the crime in issue. The Complete Polygraph Handbook at 61.

13. See Id. at 114-19. For this reason, the attorney who advises a client before a polygraph test that control questions are not important does a likely disservice.

14. Some polygraphers use what is termed a sacrifice relevant question such as, "Do you intend to answer all the questions truthfully?" Although a sacrifice relevant will not be used for scoring purposes, it does help to enhance the mental state of the subject.

15. The attorney should always monitor the pretest as well as the test phase. One-way glass and a simple intercom permit observation of all polygraph examinations. The room should permit the attorney to see the client, the examiner, and the machine at all times. The wisdom of meticulous note taking should be apparent. Before the client enters the polygraph room, the client and the attorney agree that a loud tap on the glass means the client will stop talking. The attorney and the polygrapher should agree in advance that there will be no post-test interrogation.

16. The global scoring technique attracted a fair amount of criticism due to its reliance on the subjective judgments of the examiner.

17. This paper makes no attempt to provide the reader with sufficient information to permit the scoring of polygraph charts. Polygraphers spend many hours

learning the fundamentals of the technique and a considerable period of time acquiring proficiency.

18. This flexibility is intended to favor the truthful subject by permitting adjustment according to strong responses to control questions. The theory also provides for exclusion of untimely responses that are not considered to be indicative of deception.

19. See e.g. United States v. Marshall, 526 F.2d 1349, 1360 (9th Cir. 1975), cert. denied, 426 U.S. 923 (1976); United States v. Russo, 527 F.2d 1051, 1058-59 (10th Cir. 1975), cert. denied, 426 U.S. 906, reh. denied, 427 U.S. 913 (1976); United States v. Francis, 487 F.2d 968 (5th Cir. 1973), cert. denied, 416 U.S. 908 (1974).

20. See e.g. United States v. DeBetham, 348 F.Supp. 1377 (S.D. Cal. 1972). The court recognized that many traditional concerns expressed regarding polygraph evidence are not barriers to admissibility, but chose to rely on policy considerations as the basis for exclusion.

21. United States v. Brevard, 739 F.2d 180 (4th Cir. 1984); United States v. Clark, 598 F.2d 994 (5th Cir. 1979), vacated en banc, 622 F.2d 917 (12 judges expressed the willingness to give favorable reconsideration to the issue in a proper case), cert.denied, 449 U.S. 1128 (1981); United States v. Skeens, 494 F.2d 1050, 1053 (D.C. Cir. 1974) ("there has never been a successful challenge to [Frye] in any federal court.").

22. See e.g. United States v. Miller, 874 F.2d 1255 (9th Cir. 1989)(regarding reliability of post polygraph admissions); Wolfel v. Holbrook, 823 F.2d 970 (6th Cir. 1987)(willingness to submit to polygraph); United States v. Johnson, 816 F.2d 918 (3rd Cir. 1987)(to rebut challenge to voluntariness of confession); United States v. Hall, 805 F.2d 1410 (10th Cir. 1986)(as explanation for less than full investigation).

23. See United States v. Piccinonna, 885 F.2d 1529 (11th Cir. 1989); Anderson v. United States, 788 F.2d 517 (8th Cir. 1986).

24. But see Israel v. McMorris, 455 U.S. 967 (1982), wherein Justices Rehnquist and O'Connor dissented from the Court's declining to consider the issue of a prosecutor's refusal to honor a stipulation regarding polygraph results. The opinion observed that twenty-three states admit stipulated polygraph results. In Masri v. United States, 434 U.S. 907 (1977), Justices White and Marshall dissented from the Court's refusal to examine the Fifth Circuit rule of per se inadmissibility, commenting that the rule is different in the other federal circuits.

25. See Tafoya v. Baca, 702 P.2d 1001 (N.M. 1985).

26. See Ex Parte Clements, 447 So.2d (Ala. 1984); State v. Montes, 657 P.2d 191 (Ariz. 1983); Witherspoon v. Superior Court, 183 Cal.Rptr 421 (1982); Waterman v. State, 406 So.2d 1250 (Fla. App. 1981); Bosworth v. State, 342 S.E.2d 22 (Ga. 1986); Lehiy v. State, 501 N.E.2d 451 (Ind. 1988); State v. Marti, 290 N.W.2d 570 (Iowa 1980); Workman v. Commonwealth, 78 S.W.2d 279 (Ky. 1979); Commonwealth v. A Juvenile (No. 1), 313 N.E.2d 120 (Mass. 1974); Aguilar v. State, 639 P.2d 533 (Nev. 1982); State v. Hollander, 403 A.2d 563 (N.J. 1985); State v. Souel,

372 N.E.2d 1318 (Ohio 1978); State v. Revetevano, 681 P.2d 1265 (Ut. 1984); State v. Grisby, 647 P.2d 6, cert. denied, 103 S.Ct. 1205 (Wash. 1982); Cullin v. State, 565 P.2d 445 (Wyo. 1977).

27. See Pulakis v. State, 476 P.2d 474 (Alaska 1970); People v. Anderson, 637 P.2d 354 (Colo. 1981) People v. Baynes, 430 N.E. 2d 1030 (Ill. 1981); Kelly v. State, 418 A.2d 218 (Md. 1980); State v. Mitchell, 402 A.2d 479 (Me. 1979); State v. Biddle, 599 S.W.2d 182 (Mo. 1980); State v. Steinmark, 239 N.W.2d 495 (Neb. 1976); Birdsong v. State, 649 P.2d 786 (Okla. 1982); State v. Frazier, 252 S.E.2d 39 (W.Va. 1979); State v. Dean, 307 N.W.2d 628 (Wis. 1981).

.P. Trovillo, A History in Lie Detection 2, S.R. 19-13, The Provost's Marshall General's School 1961, reprinted with permission from Criminal Law and Criminology, March-April and May-June 1939.

28. Alaska, Colorado, Connecticut, Delaware, Hawaii, Idaho, Maryland, Minnesota, New Hampshire, New Jersey, Ohio, Pennsylvania, Rhode Island, Washington, Wisconsin, Wyoming, and the District of Columbia.



29. Colorado, New Hampshire, Ohio, and Wyoming.

30. 24 M.J. at 247. The court went on to mention the trial controversy over the specificity of the questions asked during the two tests. The defense examiner had asked very specific questions while the government examiner "had asked very broad questions, such as whether appellant had ever possessed or sold drugs aboard the ship." Id.(Footnote omitted) (Emphasis in original). The controversial question in the government examination undoubtedly was a control question.

31. Judge Sullivan apparently preferred a narrower focus and pointed out that the granted issue was much more limited than the one addressed by the court. 24 M.J. at 255 (Sullivan, J. dissenting).

32. United States v. Downing, 753 F.2d 1224, 1233-37 (3rd Cir. 1985).

33. 24 M.J. at 249-251.

34. The Eleventh Circuit has recently reached a similar conclusion. See United States v. Piccinonna, 885 F. 2d 1529 (11th Cir. 1989).

35. 24 M.J. at 253.

36. See 24 M.J. at 253 and United States v. Abeyta, 25 M.J. 97 (C.M.A. 1987), cert. denied, 108 S. Ct. 752 (1987).

37. A recent case involving a charge of false swearing demonstrates the outer limits of the polygraph's logical relevance. In United States v. McKinnie, 29 30 M.J. 825 (A.C.M.R. 1989) the accused's allegedly false sworn statements were admitted into evidence. The accused did not testify at trial. However, the defense offered independent polygraph results reflecting no deception when the accused made statements during the test that were consistent with the charged statements already in evidence. Since the accused's charged statements were properly before the court and their truth was in issue, the polygraph results were logically relevant. Relying on Gipson the court found the military judge properly excluded the results due to concerns regarding their ex parte administration.

38. See 24 M.J. 249 where the court comments approvingly on this procedure.

39. One writer suggests that the government seek a waiver of the Abeyta requirement in the stipulation, thereby allowing the government to offer the results in the absence of the accused's trial testimony. At the same time the government would retain the right to object to admission of the results if the accused did not take the stand. See United States v. Gipson: A Leap Forward or Impetus for a Step Backward?, The Army Lawyer, Nov. 1988 at 27. This is politely known as "having one's cake and eating it too." Gipson and Abeyta have made it quite clear that some other evidence is necessary to establish the logical relevance of polygraph results. Refusing to stipulate to admission of the results in the absence of an Abeyta waiver is a potential time bomb. See Israel v. McMorris, 455 U.S. 967 (1982)(Rehnquist, C.J., dissenting).

40. See 24 M.J. at 252.

41. Id. at n. 8.

42. 24 M.J. at 249 and 252.

43. See e.g. Raskin, Science, Competence, and Polygraph Technique, 8 Criminal Defense 11, 15 (1981).

44. 24 M.J. at 251-2.

45. All three judges used the term "reliability" in contexts embracing the notion of validity. 24 M.J. at 248 and 255 (Everett, C.J., concurring) (Sullivan, J., dissenting). However, the judges make their positions on the validity issue emphatically clear.

46. McCormick, Law of Evidence, 363-64, West (1954).

47. See e.g. W. Wickler, The Polygraphic Truth Test and The Law of Evidence, 22(6) Tenn.L.Rev. 711 (Feb. 1953); E. Cureton, A Comment on the Validity of Polygraph Procedures, 22(6) Tenn.L.Rev. 728 (Feb. 1953); J. Wigmore, A Student's Textbook of the Law of Evidence, 184-5, The Foundation Press, Inc., 1935.

48. See McCormick, supra at 363.

49. The Drafters' Analysis to Mil. R. Evid. 702 cautiously explains that, "[a]lthough the Rule is similar to the present Manual rule, it may be broader and may supersede Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), an issue now being extensively litigated in the Article III courts. The Rule's sole

explicit test is whether the evidence in question 'will assist the trier of fact to understand the evidence or to determine a fact in issue.'"

50. The implementation of the Military Rules of Evidence on 1 September 1980 did not completely resolve the issue of whether Frye retained validity as the controlling standard. The widespread rule of per se inadmissibility in the federal courts at the time and cases such as United States v. Helton, 10 M.J. 820 (A.F.C.M.R. 1981) gave no indication that military courts would become more receptive to polygraph evidence. Even while Gipson was pending at the Court of Military Appeals the Court emphatically stated in dicta that, "polygraph evidence, whether human or mechanical, is inadmissible." United States v. Cameron, 21 M.J. 59, 65 (C.M.A. 1985).

51. 24 M.J. at 252.

52. See e.g. People v. Kegler, 242 Cal.Rptr. 897 (Cal.App.2 Dist. 1987).

53. See e.g. United States v. Alexander, 526 F.2d 161 (8th Cir. 1975).

54. See e.g. United States v. Urguidez, 356 F.Supp. 1363, 1367 D.C. Cal. 1973); State v. Grier, 300 S.E. 2d 351 (N.C. 1983).

55. See D. Lykken, A Tremor in the Blood: Uses and Abuses of the Lie Detector, 70 (1981).

56. See W. Wickler, The Polygraphic Truth Test and the Law of Evidence, Tenn. Law Rev., 22(6) Feb. 1953.

57. Scientific Validity of Polygraph Testing: A Research Review and Evaluation--A Technical Memorandum, U.S. Congress, Office of Technology Assessment, OTA-TM-H-15, 1983.

58. See e.g. D. Raskin, Methodological Issues in Estimating Polygraph Accuracy in Field Applications, 19(4) Canad. J. Behav. Sci., 389-404 (1987).

59. See e.g. 24 M.J. 254, Appendix.

60. Polygraph Handbook for Attorneys, at 2.

61. The myth of the friendly polygraph examiner is discussed in more detail later. This paper also

suggests a workable method of eliminating this concern.

62. Army Reg. 195-6, Department of the Army Polygraph Activities, para. 2-5, (1 October 1980).

63. The Validity of the Positive Control Physiological Detection of Deception Technique, at 48.

64. 24 M.J. at 253.

65. Manual for Courts-Martial, United States, 1984, Rule for Courts-Martial 1001(b)(5).

66. See Mil. R. Evid. 404(a)(1); United States v. Benedict, 27 M.J. 253 (C.M.A. 1988); United States v. Court, 24 M.J. 11 (C.M.A. 1987); United States v. Belz, 20 M.J. 33 (C.M.A. 1985); United States v. McNeill, 17 M.J. 451 (C.M.A. 1984). See also Mil. R. Evid. 608(a).

67. It is reasonable to classify witnesses providing evidence of rehabilitative potential and pertinent character traits as experts within the meaning of the Military Rules of Evidence. A commander, for example,

typically bases an opinion on such matters on personal observations and reports from supervisors of the person in question. These accumulated facts and data are "of a type reasonably relied upon ... in forming inferences on the subject." Mil. R. Evid. 703.

68. See Manson v. Brathwaite, 432 U.S. 98, 119 (1977) (Marshall, J. dissenting) ("Relying on numerous studies over many years by such scholars as Professor Wigmore and Mr. Justice Frankfurter, the Court [] concluded that, '[t]he vagaries of eyewitness identification are well-known; the annals of criminal law are rife with instances of mistaken identification.'")

69. A. Yarmey, The Psychology of Eyewitness Testimony, The Free Press, New York 1979, 145-161.

70. 300 S.E.2d 351 (N.C. 1983).

71. Id. at 359.

72. See e.g. United States v. Peel, 29 M.J. 235, 240-41 (C.M.A. 1989); United States v. Reynolds, 29 M.J. 105, 108-11 (C.M.A. 1989); United States v.



Tolppa, 25 M.J. 352, 353-55 (C.M.A. 1987); United States v. Toledo, 25 M.J. 270 (C.M.A. 1987); United States v. Nelson, 25 M.J. 110, 112 (C.M.A. 1987), cert. denied, 108 S.Ct. 1016 (1988).

73. See Tarasoff v. Regents of the University of California, 131 Cal.Rptr. 14 (1976). See also J. Monohan, The Clinical Prediction of Violent Behavior, 101-23, U.S. Dept. of Health and Human Services, National Institute of Mental Health, Rockville, MD. (1981).

74. Barefoot v. Estelle, 463 U.S. 880, 899 n.7 (1983).

75. 526 F.2d 161, 168 (8th Cir. 1975).

76. However, the identical concern has existed for some time. See e.g. United States v. Stromberg, 179 F.Supp. 278 (S.D.N.Y.), aff'd as modified, 268 F.2d 256 (2nd Cir.), cert. denied, 361 U.S. 863 (1959).

77. The available research on this issue is terribly inadequate for sweeping generalizations. See A. Markwart, B. Lynch, The Effect of Polygraph Evidence

on Mock Jury Decision-Making, Vol. 7, No. 3, Journal of Police Science and Administration, 324-32 (1979); S. Carlson, M. Pasano, J. Jannuzzo, The Effect of Lie Detector Evidence on Jury Deliberations: An Empirical Study, Vol. 5, No. 1, Journal of Police Science and Administration, 148-53 (1977).

78. See Uniform Code of Military Justice art. 25(d)(2), 10 U.S.C. section 825(d)(2)(1982).

79. 24 M.J. 253 n.11.

80. The fact that expert opinion embraces the ultimate issue is generally not a basis for objection. Mil. R. Evid. 704.

81. See E. Loftus, Eyewitness Testimony, Harvard University Press, Cambridge, Mass., 1981.

82. See People v. Castro, 545 N.Y.S.2d 985 (Nassau County Ct. 1989); State v. Schwartz, 447 N.W.2d (Minn. 1989). 85. Id.

83. Because the trial did not require a verbatim transcript, excerpts from the trial tapes were

obtained from the Office of the Staff Judge Advocate,  
HQ, 25th Infantry Division (Light), Schofield  
Barracks, HI 96857-6022.

84. Id.

85. Id.

86. See e.g. United States v. Urguidez, supra.

87. Polygraph Handbook for Attorneys, Appendix.

88. 24 M.J. at 252.

89. The rule provides for exclusion of evidence that presents a danger of "confusion of the issues, or misleading the members, or by considerations of undue delay, waste of time, or the needless presentation of cumulative evidence."

90. E. Imwinkelried, Evidentiary Foundations, 94, The Michie Company, 1989 (Hereinafter Imwinkelried). See also pp. 94-97 for a sample of the questions need to establish the foundation.

91. Certain aspects of the outline appear to be necessarily dependent on others. For example, element 1 is a condition precedent to elements 4, 5, and 6. Additionally, elements 12 and 13 are two ways of stating the same thing. Eliminating this duplicity leaves a foundational requirement consisting of nine elements.

92. Compare Imwinkelried at 79 with Imwinkelried at 94.

93. See e.g. United States v. Ridling, 350 F.Supp. 90, 94 (E.D. Mich. 1972).

94. See C. Honts, D. Raskin, J. Kirchner, Effects of Socialization on the Physiological Detection of Deception, 19 Journal of Research in Personality, 373-385 (1985).

95. Until recently, the small likelihood that polygraph results would be admissible in court made it somewhat reasonable for an accused to shop for favorable polygraph results. This potential will exist as long as there are independent examiners.

96. R. Peters, A Survey of Polygraph Evidence in Criminal Trials, Vol. 68 A.B.A. Journal 162 (1982).

97. The majority of the information presented in this section was obtained through the cooperation and assistance of all personnel at the Institute during a visit by the author. The observations and opinions presented herein are those of the author and do not represent the official position of the Institute or the Department of Defense.

98. Mil. R. Evid. 702 provides, in part, that "a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise." The Court of Military Appeals has explained that Rule 702 relaxes prior requirements in that it establishes a "much lower threshold for determining whether a given person is an expert and requires only that the proffered witness have some specialized knowledge as a result of experience or education.... The witness need not be 'an outstanding practitioner,' but only someone who can help the jury." United States v. Mustafa, 22 M.J. 165, (C.M.A.), cert. denied, 479 U.S. 953 (1986). Foundational testimony by Institute

graduates is well above the threshold established by the Rule. See e.g. United States v. Mance, 26 M.J. 244 (C.M.A. 1988); United States v. Dibb, 26 M.J. 830 (A.C.M.R. 1988).

99. Much of the clinical research relied upon to criticize polygraph validity uses a subject population of university students. While the age factor may not be statistically significant, the use of student subjects is a factor impacting on the validity of clinical research.

100. See e.g. J. Kirchner, D. Raskin, Human Versus Computerized Evaluations of Polygraph Data in a Laboratory Setting, Vol. 73, No. 2, Journal of Applied Psychology, 291-302 (1988).

101. An accused is entitled to the assistance of necessary government experts in the preparation of the defense. See e.g. United States v. Toledo, 25 M.J. 270, 275-76 (C.M.A. 1987). The government personnel who perform quality control evaluations on polygraph examinations should fall within the scope of existing decisional precedents. Moreover, because the quality control verification is an objective forensic test,

the document should satisfy Mil. R. Evid. 803(6) or (8) (records of regularly conducted activity or public records and reports, respectively). As a result there should be no need for the appearance at trial of the person conducting the quality control examination. See Beech Aircraft Corporation v. Rainey, 109 S.Ct. 439 (1988)(proper under Fed. R. Evid. 803(8) for trial court to consider conclusions of Navy report concerning the cause of an airplane crash); United States v. Strangstalien, 7 M.J. 225 (C.M.A. 1979)(drug analysis laboratory reports); United States v. Holmes, 23 M.J. 565 (A.C.M.R. 1986)(forensic laboratory reports covered by Mil. R. Evid. 803(6)); United States v. Cordero, 21 M.J. 714 (A.F.C.M.R. 1985)(laboratory reports and other forensic evidence are within the coverage of Mil. R. Evid. 803(6)). But see United States v. Broadnax, 23 M.J. 389 (C.M.A. 1987) regarding the need for foundational witnesses for "subjective" forensic opinions.

102. The author has not discovered this particular concern in the literature. The concern implicit in most discussions of polygraph validity appears to be the concern that a guilty accused will escape punishment due to an invalid examination indicating no

deception. However, the United States Air Force has determined as a matter of policy that it will not be the moving party for the admission of polygraph results indicating that the accused was deceptive during a polygraph examination.